

Amendment and Response

Applicant: Jerome D. Brown et al.

Serial No.: 10/681,851

Filed: October 8, 2003

Docket No.: 10386US01

Title: TAPE REEL ASSEMBLY WITH STIFF WINDING SURFACE FOR A TAPE DRIVE SYSTEM**REMARKS**

These remarks are responsive to the Non-Final Office Action mailed May 24, 2005. In that Office Action, the Examiner acknowledged Applicants' election of Species III (FIG. 5) having claims 1, 9-11, 14, 26-31, 35, and 36 reading on the elected Species. The Office Action further indicates that claim 36 is withdrawn.

In addition, claims 1, 9-11, and 14 were rejected under 35 U.S.C. § 112, second paragraph. Claims 1, 9, 10, 14, 26-29, 31, and 35 were rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative under 35 U.S.C. § 103(a) as being obvious over, Weyrich et al., U.S. Patent No. 3,485,456 ("Weyrich"). Claims 1, 9, 10, 14, 26-29, 31, and 35 were additionally rejected under 35 U.S.C. §103(a) as being unpatentable over admitted prior art in view of Weyrich.

The Examiner's indication that claims 11 and 30 would be allowable if rewritten to overcome rejections under 35 U.S.C. §112, second paragraph, is noted with appreciation.

With this Response, claims 15-25 have been canceled, and claims 37-44 are newly presented. Claims 1, 9-11, 14, 26-31, 35, and 37-44 remain pending in the application and are presented for consideration and allowance.

Claim 36

The Office Action states that claim 36 will also be withdrawn as "[T]here is no disclosure as to what applied stress corresponds to an effective radial modulus of 0.3 million pounds-per-square inch." However, it is respectfully suggested that the Examiner may have misinterpreted independent claim 36. In this regard, claim 36 recites in part: "wherein winding of the storage tape onto the hub applies a stress that deflects the tape winding surface, and further wherein **the deflection of the tape winding surface resulting from the applied stress** corresponds to an effective radial modulus of the tape winding surface of greater than 0.3 million pounds-per-square-inch." The Specification at page 9, line 14 through page 10, line 17 details the relationship between applied stress, a resulting strain, and the associated material modulus that represents the material's deformation (i.e., response) to the applied stress. In addition, the Specification describes at page 10, lines 15-17 that the effective radial modulus characterizes the

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relative resistance to radial deformation of the tape winding surface due to successive wraps of storage tape. Finally, the embodiment of FIG. 5 (the elected species) is described in connection with this claimed feature at page 12, line 28-page 13, line 14. For these reasons, it is respectfully submitted that claim 36 should not be withdrawn from consideration as it is directed to the elected species, and recites that the deflection of the tape winding surface results from the applied stress of winding the storage tape onto the hub.

35 U.S.C. § 112, Second Paragraph, Rejections

Claims 1, 9-11, and 14 were rejected under 35 U.S.C. § 112, second paragraph. The Office Action takes the position at page 2 that claims 1, 9-11, and 14 are incomplete for omitting as an essential element the metal backbone, and cites to MPEP 2172.01. It is believed that the Office Action intended to reject these claims under 35 U.S.C. § 112, first paragraph, consistent with the guidance offered by MPEP 2172.01. In any regard, Applicants respectfully disagree.

MPEP section 2172.01 instructs that a claim that omits matter disclosed to be essential to the invention as described in the Specification or in other statements of record may be rejected under 35 U.S.C. § 112, first paragraph, as not enabling. (Emphasis added). It is respectfully asserted that nowhere in the Specification is it disclosed (or otherwise stated in the record) that the metal backbone of the elected species of FIG. 5 is an essential element of aspects of the pending invention.

In fact, the Specification describes in detail a variety of embodiments of tape reel assemblies, having an effective radial modulus of greater than 0.3 million pounds-per-square-inch. In particular, the Specification at page 9, line 14 to page 11, line 13 describes generally that the hub of the present invention can be configured such that the tape winding surface exhibits an effective radial modulus of greater than 0.3 Msi. Thus, the Specification does not limit the inventive tape reel assembly hub of independent claim 1 to hubs including a metal backbone.

Moreover, MPEP section 2164.08(c) instructs that in determining whether an unclaimed feature is critical, the entire disclosure must be considered. Features which are merely preferred are not to be considered critical. In re Goffe, 542 F.2d 564, 567, 119 USPQ 429, 431 (CCPA

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1976). To this end, the MPEP instructs that limiting an Applicant to the preferred materials in the absence of limiting prior art does not serve the constitutional purposes of promoting progress in the useful arts. As stated in MPEP section 2164.08(c), an enablement rejection based on grounds that a disclosed critical limitation is missing from a claim should be made **only when** the language of the specification makes it clear that the limitation is critical for the invention to function as intended. For all of these reasons, it is respectfully requested that the rejections to claims 1, 9-11, and 14 under 35 U.S.C. § 112 be withdrawn.

35 U.S.C. §§ 102 and 103 Rejections

Claims 1, 9, 10, 14, 26-29, 31, and 35 were rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative under 35 U.S.C. § 103(a) as being obvious, over Weyrich.

Weyrich teaches at column 2, line 61 through column 3, line 10 a reel 10 including a hub portion 12 having parallel flanges 14 and 16 rigidly mounted to opposite sides of the hub 12. Weyrich teaches at column 3, lines 11-20 that the hub 12 includes an inner rim 20 and an outer rim 22. The outer rim 22 has an outer surface for receiving the computer tape (i.e., outer rim 22 is a tape winding surface). In addition, Weyrich teaches at column 3, lines 21-27 that the hub 12 "includes an **interior** metal insert 26, which provides reinforcement for the plastic hub while at the same time cooperating with the plastic portion of the hub 12 to provide a hub having a coefficient of expansion and contraction substantially equal to that of the computer tape stored on the reel." (Emphasis added).

Weyrich does not teach or suggest a tape winding surface having an effective radial modulus of greater than 0.3 million pounds-per-square-inch, as otherwise required by independent claim 1.

Weyrich does not teach or suggest a hub including a core and a backbone that combine to define an inner surface and a tape winding surface, where at least a portion of the inner surface is metal, as otherwise required by independent claim 26.

Weyrich does not teach or suggest a hub defining an inner surface and a tape winding surface, and including means for configuring the tape winding surface to have an effective radial

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modulus of greater than 0.3 million pounds-per-square-inch, as otherwise required by independent claim 35.

Based upon the above, it is respectfully requested that the rejections to independent claims 1, 26, and 35, and their respective dependent claims 9-10, 14, 27-29, and 31, under 35 U.S.C. § 102(b) over Weyrich be withdrawn.

With regard to the 35 U.S.C. § 103 rejections, the Examiner takes the position that it would have been obvious to one of ordinary skill in the art that reinforcing a hub as taught in Weyrich would meet the limitation of an effective radial modulus of greater than 0.3 million pounds-per-square-inch. Applicants respectfully disagree for the following reason.

Weyrich teaches that the metal insert 26 is an "interior" metal insert that provides reinforcement to the plastic hub while at the same time cooperating with the plastic portion of the hub 12 to provide a hub having a coefficient of expansion and contraction substantially equal to that of the computer tapes stored on the reel. In this regard, the interior metal insert 26 taught in Weyrich is disposed between the inner rim 20 and the outer rim 22 of the hub 12. Thus, the outer rim 22 (the tape winding surface) of the hub 12 is a plastic material having a coefficient of expansion and contraction substantially equal to that of the computer tape stored on the reel. Consequently, the outer rim 22 of the hub 12 is physically similar (in a material property sense) to computer tape stored on the reel. It is respectfully submitted that a hub having a coefficient of expansion and contraction substantially equal to that of the computer tape stored on the reel simply could not also have a material modulus of greater than 0.3 million pounds-per-square-inch, much less an effective radial modulus of greater than 0.3 million pounds-per-square-inch. Therefore, reinforcing the plastic hub taught in Weyrich with the interior metal insert 26 would fail to achieve a tape winding surface having effective radial modulus of greater than 0.3 million pounds-per-square-inch, as otherwise required by independent claims 1 and 35. Weyrich makes no mention of effective radial modulus, let alone a radial modulus of greater than 0.3 million pounds-per-square-inch. Therefore, as all limitations of claim 1 are not taught or suggested, claim 1 is non-obvious. MPEP 2143.03.

In addition, independent claim 26 recites in part a hub including a core and a backbone that combine to define an inner surface and a tape winding surface, wherein at least a portion of

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the inner surface is metal. It is respectfully submitted that Weyrich fails to teach or suggest at least these limitations of independent claim 26. Thus, claims 26-29 and 31 cannot be obvious over Weyrich.

For the above reasons, it is respectfully requested that the rejections to claims 1, 9-10, 14, 26-29, 31, and 35 under 35 U.S.C. § 103(a) over Weyrich be withdrawn.

Claims 1, 9-10, 14, 26-29, 31, and 35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over admitted prior art in view of Weyrich. The Examiner cites to page 10, lines 20-22 of the Specification as teaching a hub having an effective radial modulus of 0.19 Msi. The Examiner takes the position that it would have been obvious for one of ordinary skill in the art to provide the hub referenced at page 10, lines 20-22 with the insert 26 taught in Weyrich to achieve a hub as claimed in claims 1, 9-10, 14, 26-29, 31, and 35. Applicants respectfully disagree.

Quoting from the Specification at page 10, lines 18-20: "As a point of reference, one known hub construction is 20% glass-filled polycarbonate having a material modulus of 0.780 million pounds-per-square-inch (hereinafter Msi) and an effective radial modulus of 0.190 Msi." With reference to the Specification, it is noted that a 20% glass-filled polycarbonate hub has a relatively large material modulus of 0.78 Msi, and still fails to achieve an effective radial modulus of greater than 0.3 Msi. In addition, it is noted that the 20% glass-filled hub disclosed in the Specification likely has a material modulus larger than the material modulus of the hub 12 taught in Weyrich. In any regard, there is no support for the conclusion advanced by the Office Action that laterally disposing the interior metal insert 26 as taught in Weyrich between the tape winding surface and an interior surface of the hub would transform a 20% glass-filled polycarbonate hub (having an effective radial modulus of 0.19 Msi) into a hub having a tape winding surface with an effective radial modulus of greater than 0.3 Msi, as otherwise required by independent claims 1 and 35.

Independent claim 26 recites in part a hub including a core and a backbone that combine to define an inner surface and a tape winding surface, wherein at least a portion of the inner surface is metal. It is respectfully submitted that Weyrich fails to teach or suggest at least these

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limitations of independent claim 26. Thus, claims 26-29 and 31 cannot be obvious over Weyrich.

For the above reasons, it is respectfully requested that the rejections to claims 1, 9-10, 14, 26-29, 31, and 35 under 35 U.S.C. § 103(a) over admitted prior art in view of Weyrich be withdrawn.

The Examiner has indicated that claims 11 and 30 contain allowable subject matter, which is noted with appreciation. Based upon this indication, claims 37-44 are newly presented to recite portions of the allowable subject matter.

Independent claim 37 is newly presented to particularly point out and distinctly claim subject matter not taught or suggested by the cited reference. Independent claim 37 provides a tape reel assembly comprising a hub defining an inner surface and a tape winding surface, the inner surface comprising a metal backbone, and at least a portion of the hub being made of plastic; wherein the tape winding surface has an effective radial modulus of greater than 0.3 million pounds-per-square-inch.

Independent claim 41 is newly presented to particularly point out and distinctly claim subject matter not taught or suggested by the cited reference. Independent claim 41 provides a tape reel assembly comprising a hub including a metal backbone defining an inner surface, and a plastic core coupled to the backbone and defining a tape winding surface.

It is respectfully submitted that dependent claims 38-40 further define patentably distinct independent claim 37, and dependent claims 42-44 further define patentably distinct independent claim 41.

CONCLUSION

It is believed that claims 1, 9-11, 14, 26-31, 35, and 37-44 recite patentable subject matter, are in form for allowance, and are not taught or suggested by the cited reference. Allowance, and notice of the allowance, of claims 1, 9-11, 14, 26-31, 35, and 37-44 is respectfully requested.

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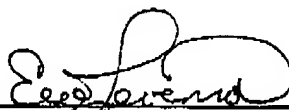
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